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A Century of Advancing Women in Engineering

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One hundred years ago, the first woman to receive an engineering degree from The University of Texas at Austin graduated. Thirty years after that, the university hired its first female engineering faculty member (who was also the first female professor of electrical engineering in the United States). And forty years later, we established one of the first university-led women in engineering programs in the country and the first in the state of Texas.

For nearly a century, Texas Engineering has paved the way, rising above the rest in not only encouraging the advancement of women in our field but in systematically supporting it.

Today, there is a nationwide push to engage and educate women, especially young girls, about the possibilities in science, technology, engineering and math (STEM) fields. It's a push that the Cockrell School of Engineering is helping to lead and it starts with our nationally recognized Women in Engineering Program (WEP).

Collaborating with faculty, staff and students across the Cockrell School as well as professional engineers, teachers and industry partners, WEP focuses on pre-college outreach and recruitment, retention of college-level engineering students, community building, leadership enhancement and career development. WEP works with Cockrell School and UT Austin leadership to create and grow programs that support female undergraduate and graduate students and help them succeed.

"As one of the leading diversity programs in the country, with the largest participation and strongest programming, WEP has definitely set the standard," said Tricia Berry, a Cockrell School alumna (B.S. Chemical Engineering '93) who was a student when WEP was created and has served as its director since 2001. "Hopefully we've created a blueprint that programs at other universities can use, and we encourage them to join in this nationwide effort."

Outreach Early On

The Cockrell School has long recognized the need to engage K-12 students in engineering and science, as a way to inspire and educate children throughout the state of Texas, recruit future UT Austin students and ensure their lasting success.

As a result, there has been a steady increase in female enrollment for the past two decades. In 1988, when Berry was a freshman in the program, women represented 15 percent of Texas Engineering's undergraduate population. This year, our female undergraduate population reached 25 percent.

Especially since WEP's inception in 1992, the Cockrell School has been at the forefront of engineering outreach to young girls.

"At the Cockrell School, we have always had strong support from administration. Because we have a dedicated full-time staff, we can devote our entire time to and really focus our resources on women in engineering and in STEM," Berry said. "And that makes a difference in our success."

In recent years, Berry — who, among other distinctions, is recognized as one of the 100 Women Leaders in STEM by the national group STEMconnector — has even led a nationwide shift in the way we message engineering to this group, presenting engineering as a field that helps people make the world a better place.

UT Austin's annual Introduce a Girl to Engineering Day, WEP's flagship event, showcases hands-on activities to teach and excite young girls about how engineers can change the world. With 4,000 girls registered for this year's Girl Day on Feb. 28, it has become the largest and most robust event of its kind in the nation.

In addition, WEP volunteers visit K-12 schools in the community, as well as provide programs targeted toward admitted Cockrell School students that connect them with current students even before they arrive on campus. WEP also leads local STEM outreach efforts, partnering with such groups as the Girl Scouts of America, Central Texas Discover Engineering, the Thinkery and Girlstart.

A Larger Purpose

As a school, we think beyond enrollment numbers — we want all of our enrolled female students to remain in the Cockrell School and graduate with engineering degrees.

"If we want more women in STEM, and engineering specifically, we need more ways for women to enter the pipeline, both in the years before they even consider applying and in the years they spend on campus," Berry said.

Beginning with their freshman year, women in Texas Engineering join programs that are designed to support them early in their academic careers, such as First-Year Interest Groups, Women in the Second Year of Engineering, spatial visualization workshops, leadership training retreats and Connections Classes where faculty will spend time visiting with students about their research, hobbies, experiences and educational pathways.

"We've seen that involvement in our programs has a profound impact on graduation rates," Berry said.

Over the past five years, graduation rates for women in engineering at the Cockrell School have jumped from 20 percent of undergraduates to 25 percent.

"I sought an environment where I would feel comfortable and proud of being an engineer, and the Cockrell School really provides that," said Patricia Renyut, a petroleum and geosystems engineering senior. "Just as I've benefitted from interacting with female engineering leaders in the industry, I hope that younger girls will benefit from meeting female engineering students like me."

When you've got the caliber of female faculty, staff and peer role models that we have in Texas Engineering, it helps to reassure our women engineers, like Renyut, that they've chosen the right field and particularly the right school.

It's especially inspiring to see how successful our alumnae have been. To name just a few: Karen Nyberg (M.S. Mechanical Engineering '96; Ph.D. Mechanical Engineering '98) is a well-known NASA astronaut who became the 50th woman in space. Sara Ortwein (B.S. Civil Engineering '80) started as a drilling engineer and is now an executive with ExxonMobil Corp. Rachel Kuhr (B.S. Mechanical Engineering '10) successfully pitched her current position doing product design and innovation to Mark Cuban and now works with his "Shark Tank" companies to help them succeed from an engineering perspective.

"Seeing the successful and empowered women engineers from UT Austin, hearing about the hurdles they've overcome and connecting with them makes me feel confident that being a girl in engineering will in no way be a barrier to my achievements," Renyut said.

The Cockrell School has not only led the way for decades, we've been defining it. Our efforts to recruit, retain and ultimately support women in engineering span the entire field and will only continue to grow.

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